

# SECTION 01.45.00 QUALITY CONTROL

# 45.1 GENERAL SCOPE OF THE WORK

- **A** General Contractor's quality control and control of installation.
- B Tolerances.
- C References.
- **D** Mock up requirements.
- **E** Testing and Inspection Services.
- F Manufacturers' field services.
- **G** Examination.

## 45.2 RELATED DOCUMENTS

- **A** This section supplements the General Conditions, Supplementary Conditions, the Drawings, and all other parts of the Contract Documents.
- **B** Consult the individual sections of the specifications for specific items required under those sections.

## 45.3 QUALITY CONTROL AND CONTROL OF INSTALLATION

- A The General Contractor shall provide inspections, tests, and quality control services specified herein and in individual specification sections and required by governing authorities having jurisdiction, except where they are specifically required under a filed subbid section of the specification. In those cases they will be the responsibility of the filed subcontractor. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- **B** Comply with manufacturer's instructions, including each step in sequence.
- **C** When manufacturer's instructions conflict with the Contract Documents, request clarification from the Architect before proceeding.
- **D** Comply with specified standards as minimum quality of Work except where more stringent tolerances, codes, or specific requirements indicate higher standards or workmanship.
- **E** Perform the Work using persons qualified to produce the required and specified quality.
- **F** Verify field measurements are as indicated on Shop Drawings or as instructed by the manufacturer.
- **G** Secure products in place with appropriate positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

## 45.4 TOLERANCES

- **A** Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not allow tolerances to accumulate.
- **B** Comply with manufacturer's tolerances. When manufacturers' tolerances conflict with Contract Documents, request clarification from the Architect before proceeding.
- **C** Adjust products to appropriate dimensions; position before securing products into place.

# 45.5 REFERENCES

- A For products or workwomanship specified by associations, trade or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.
- **B** Conform to reference standard by date of issue current on the date of Bid Opening. Except where specific date is established by applicable code.
- **C** Obtain copies of standards where required by product specification sections.
- **D** When specified reference standards conflict with Contract Documents, request clarification from the Architect before proceeding.
- **E** Neither contractual relationships, duties, nor responsibilities of parties, nor those of the Architect shall be altered from the Contract Documents by mention or inference otherwise in reference documents.
- **45.6 MOCK UP REQUIREMENTS** Tests will be performed under provisions identified in this section and identified in respective product specifications.
  - **B** Assemble and erection specified items with specified attachment and anchorage devices, flashings, seals and finishes.
  - **C** Accepted mock-ups shall be the comparison standard for remaining Work.
  - **D** Where mock-up has been accepted by the Architect and is specified in product specification sections to be removed; remove mock-up and clear area when directed to do so by the Architect.

#### 45.7 TESTING AND INSPECTION SERVICES

- **A** The Owner may employ and pay for specified services of an independent firm to perform testing and inspection.
- **B** Reports will be submitted by the independent firm to the Architect and Contractor indicating observations and results of tests.
- **C** The Contractor and all Subcontractors shall cooperate with the independent firm, furnish sample materials, design mixes, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
  - (1.) Notify the Architect 24 hours prior to expected time for operations requiring services.
  - (2.) The Architect will make the final decision as to when services or testing will or will not be performed.
  - (3.) Make arrangements with the independent firm and pay for additional samples and tests for the Contractor's use.

- **D** Testing and employment of testing agency or laboratory shall not relieve the Contractor of the obligation to perform work in accordance with the requirements of the Contract Documents.
- **E** Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Architect. Payment for re-testing or re-inspection will be charged to the Contractor by deducting testing charges from the Contract Sum.
- **F** Testing Agency responsibilities:
  - (1.) Test samples of mixes submitted by the Contractor.
  - (2.) Provide qualified personnel at the site. Cooperate with the Architect and Contractor in performance of services.
  - (3.) Perform specified sampling and testing of products in accordance with specified standards.
  - **(4.)** Promptly notify the Architect and Contractor of observed irregularities or non-conformance of Work or products.
  - **(5.)** Perform additional tests required by the Architect.
  - **(6.)** Attend progress meetings if requested by the Architect.
- **G** Testing Agency Reports: After each test, promptly submit two copies of the report to the Architect and to the Contractor. Provide interpretation of the results when requested by the Architect. All test reports shall include:
  - (1.) Date issued.
  - (2.) Project title and number.
  - (3.) Name of inspector.
  - (4.) Date and time of sampling or inspection.
  - (5.) Identification of product and specification section(s).
  - **(6.)** Test location.
  - (7.) Type of inspection or test.
  - (8.) Date of test.
  - **(9.)** Results of tests or inspection.
  - (10.) Conformance with Contract Documents.
- **H** Limits of Testing Agency Authority
  - (1.) Testing Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
  - **(2.)** Testing Agency may not approve or accept any portion of the Work.
  - **(3.)** Testing Agency may not assume duties of the Contractor.
  - **(4.)** Resting Agency has no authority to stop Work.

#### 45.8 Manufacturers' Field Services

- A When individual specification section(s), require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces to receive work, and installation quality of workmanship, start-up of equipment, test, adjust, and balance equipment as applicable and to initiate instructions when necessary these services shall be provided at no additional cost to the Owner.
- **B** Submit the qualifications of any observers to the Architect and Owner prior to of required observations. Observers are subject to the approval of the Owner based on the observer's credentials. This submission shall be made allowing adequate time for the Architect to review the observer's credentials. This approval does not relieve the Contractor of any obligation to complete the Work in accordance with the Contract Documents.
- **C** Report to the Architect, observations and site decisions or instruction given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

#### 45.9 EXAMINATION

- A The Contractor shall verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- **B** The Contractor shall verify existing substrate is capable of structural support or attachment of new Work being applied or attached.
- **C** The Contractor shall examine and verify specific conditions described in individual specification sections.
- **D** The Contractor shall verify utility services are available, of correct characteristics, and in correct locations.

END OF SECTION 01.45.00 QUALITY CONTROL